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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,515	12/04/2000	Herbert W. Sullivan	PA1671US	9494
22830	7590	05/16/2006	EXAMINER	
CARR & FERRELL LLP 2200 GENG ROAD PALO ALTO, CA 94303			ANYA, CHARLES E	
			ART UNIT	PAPER NUMBER
			2194	

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/729,515

Applicant(s)

SULLIVAN ET AL.

Examiner

Charles E. Anya

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
WILLIAM THOMSON  
ADVISORY PATENT EXAMINER

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-17 are pending in this application.

#### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. **Claims 1-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,039,865 B1 to Hersh in view of U.S. Pat. No. 5,671,446 to Rakity et al.**

4. As to claim 1, Hersh teaches a processing system for performing addition and subtraction within limits upon a shared value comprising: means for performing a first uninterruptible operation upon the shared value stored in an affected reservation

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location, the first uninterruptible operation using an operand/a means for comparing a resulting value of the first uninterruptible operation stored in the affected reservation location to an upper value and lower value to determine if the resulting value is within a range defined by the upper value and lower value that can be changed (claim 1 Col. 5 Ln. 53 – 56); means for performing a second uninterruptible operation to restore the affected reservation location if the resulting value of the first uninterruptible operation is not within the range defined by the upper value and lower value (claim 1 Col. 5 Ln. 62 – 67); means for performing a third uninterruptible operation to update an actual value location if the resulting value of the first uninterruptible operation is within the range defined by the upper value and lower value (claim 1 Col. 5 Ln. 57 – 61).

5. Hersh is silent with respect to means for reporting a failure if the resulting value of the first uninterruptible operation is not within the range defined by the upper value and lower value, a set of indicators manipulatable by an atomic operation; and means for performing a fourth uninterruptible operation to update an unaffected reservation location if the resulting value of the first uninterruptible operation is within the range defined by upper value and lower value and means for reporting a success if the resulting value of the first uninterruptible operation is within the range defined by upper value and lower value.

6. Rakity teaches means for reporting a failure if the resulting value of the first uninterruptible operation is not within the range defined by the upper value and lower value (“...failure...” Col. 9 Ln. 60 – 67), a set of indicators manipulatable by an atomic operation (Col. 9 Ln. 31 – 53); and means for performing a fourth uninterruptible

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operation to update an unaffected reservation location if the resulting value of the first uninterruptible operation is within the range defined by upper value and lower value and means for reporting a success if the resulting value of the first uninterruptible operation is within the range defined by upper value and lower value (“...success...” Col. 9 Ln. 60 – 67).

7. It would have been obvious to one of ordinary skill in the art at the time the invention was to combine the teachings of Rakity and Hersh because the teaching of Rakity would improve the system of Hersh by providing a method for enqueueing and dequeuing without altering the level of interrupts used on the computer system and without the risk of deadlock (Rakity Col. 3 Ln. 65 – 67).

8. Claims 2-17 are rejected for the same reason as claim 1.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**10. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,629,152 to Kingsbury et al. in view of U.S. Pat. No. 5,671,44 to Rakity et al.**

11. As to claim 1, Kingsburg teaches a processing system for performing addition and subtraction (“...AFADDII...AFSUBII...” Col. 9 Ln. 42 - 53) within limits upon a shared value comprising: means for performing a first uninterruptible operation upon the shared value stored in an affected reservation location, the first uninterruptible operation using an operand (Mailbox Data Structure 70 Col. 7 Ln. 23 - 65, Col. 10 Ln. 26 - 27); means for performing a second uninterruptible operation to restore the affected reservation location if the resulting value of the first uninterruptible operation is not within the range defined by the upper value and lower value (Step 94 Col. 10 Ln. 32 - 40); means for performing a third uninterruptible operation to update an actual value location if the resulting value of the first uninterruptible operation is within the range defined by the upper value and lower value (Step 104 Col. 10 Ln. 58 – 61) a set of indicators manipulatable by an atomic operation; col. 4, lines 26 - 36) and means for performing a fourth uninterruptible operation to update an unaffected reservation location if the resulting value of the first uninterruptible operation is within the range defined by upper value and lower value (Step 98 Col. 10 Ln. 41 - 50) and means for reporting a success if the resulting value of the first uninterruptible operation is within the range defined by upper value and lower value (“...return SUCCESS...” Col. 9 Ln. 1 - 15).

12. Kingsbury is silent with reference to teaching a means for comparing a resulting value of the first uninterruptible operation stored in the affected reservation location to an upper value and lower value to determine if the resulting value is within a range defined by the upper value and lower value that can be changed; and means for

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reporting a failure if the resulting value of the first uninterruptible operation is not within the range defined by the upper value and lower value.

13. Rakity teaches comparing a resulting value of the first interruptible operation stored in the affected reservation location to an upper value and lower value to determine if the resulting value is within a range defined by the upper value and lower value that can be changed (Col. 9 Ln. 51 – 67); means for reporting a failure if the resulting value of the first uninterruptible operation is not within the range defined by the upper value and lower value (“...failure...” Col. 9 Ln. 60 – 67), a set of indicators manipulatable by an atomic operation (Col. 9 Ln. 31 – 53); and means for performing a fourth uninterruptible operation to update an unaffected reservation location if the resulting value of the first uninterruptible operation is within the range defined by upper value and lower value and means for reporting a success if the resulting value of the first uninterruptible operation is within the range defined by upper value and lower value (“...success...” Col. 9 Ln. 60 – 67).

14. It would have been obvious to one of ordinary skill in the art at the time the invention was to combine the teachings of Rakity and Hersh because the teaching of Rakity would improve the system of Hersh by providing a method for enqueueing and dequeuing without altering the level of interrupts used on the computer system and without the risk of deadlock (Rakity Col. 3 Ln. 65 – 67).

15. As to claim 2, Kingsbury teaches the first, second, third, and fourth uninterruptible operations as LOCK XADD operations (“...exchange and add (ADD)...”

"...instruction..." Col. 9 Ln. 17 - 53).

16. As to claims 3, 5, 7 and 9-17, see the rejection of claim 1.

17. As to claims 4 and 6, see the rejection of claim 2.

### ***Response to Arguments***

18. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 5,579,505 to Ohkami: directed to memory access system for granting or preventing atomic or non atomic memory access requests to shared memory regions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Anya whose telephone number is (571) 272-3757. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone




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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles E Anya  
Examiner  
Art Unit 2194

cea.



WILLIAM THOMSON  
SUPERVISORY PATENT EXAMINER